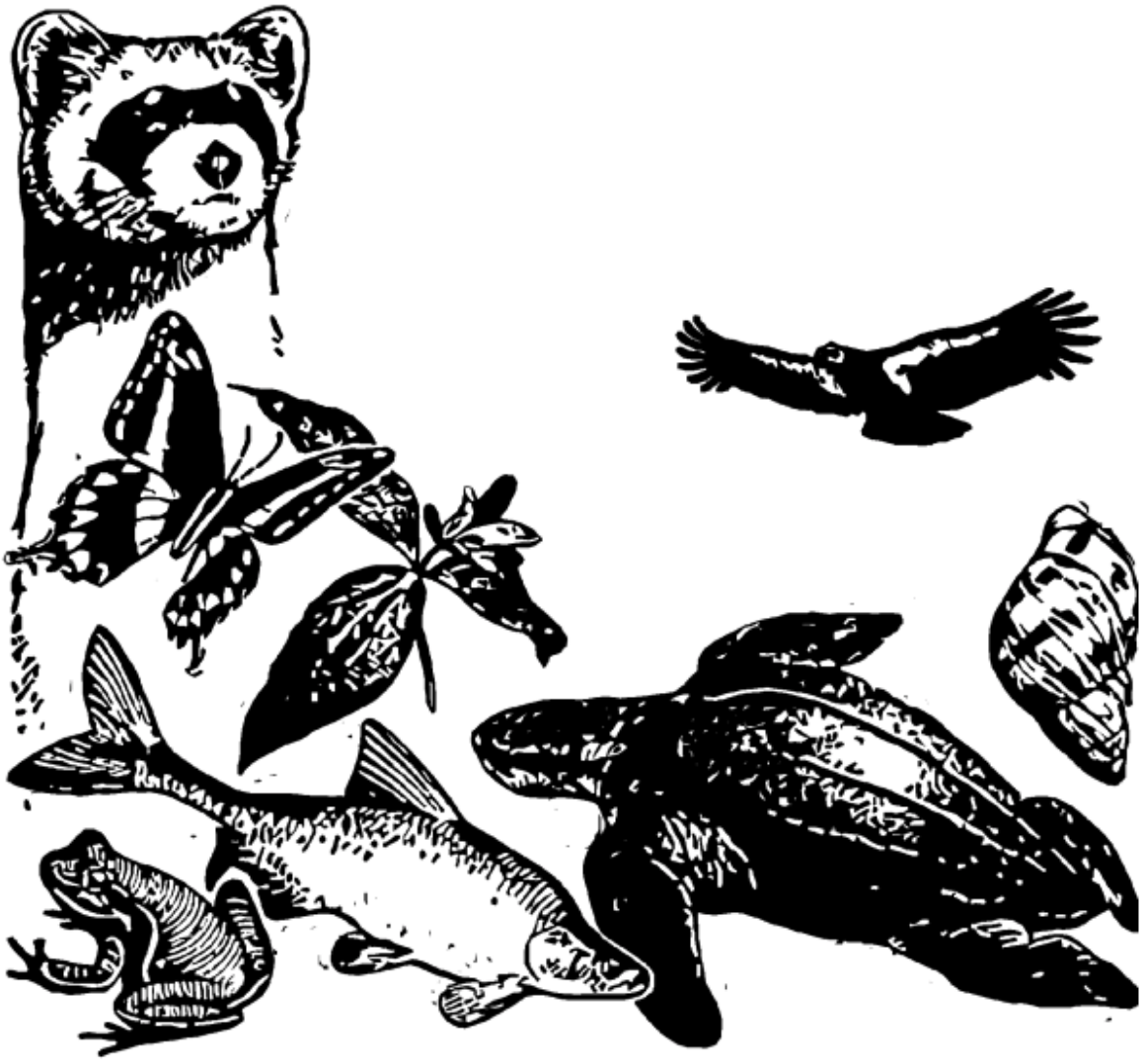
U.S. Fish & Wildlife Service

# Michigan NLEB Project Design Guidelines (updated June 2022)

## *Northern Long-eared Bat*

Generated April 20, 2023 01:24 PM UTC, IPaC v6.90.0-rc5



IPaC - Information for Planning and Consultation (https://ipac.ecosphere.fws.gov/): A project planning tool to help streamline the U.S. Fish and Wildlife Service environmental review process.

# Northern Long-eared Bat Project Review in Michigan

## Table of Contents

# I. BACKGROUND INFORMATION

The northern long-eared bat (NLEB) is one of the species of bats most impacted by the disease white-nose syndrome (WNS). Due to declines caused by WNS and continued spread of the disease, the NLEB was listed as threatened under the Endangered Species Act (ESA) on April 2, 2015. The U.S. Fish and Wildlife Service (Service or USFWS) also developed a final 4(d) rule, which specifically defines "take" prohibitions for the species, which published in the *Federal Register* on January 14, 2016.

On March 23, 2022, the Service published a proposal to reclassify the NLEB as endangered under the Endangered Species Act. Following a court order by the U.S. District Court for the District of Columbia, the Service must complete a new final listing determination for the NLEB by November 2022 (Case 1:15-cv-00477, March 1, 2021). The proposed reclassification, if finalized, would remove the current 4(d) rule for the NLEB, as these rules may be applied only to threatened species.

For more information on NLEB, including the current 4(d) rule and new listing proposal, visit the USFWS NLEB page.

## NLEB in Michigan

The NLEB is documented in many Michigan counties and is believed to range throughout the entire state. Therefore, unless presence/absence surveys conducted in accordance with Service Guidelines indicate the probable absence of the species, NLEB are considered potentially present wherever suitable habitat exists within the state.

### *Suitable Habitat for NLEB:*

During the winter, NLEB hibernate in mines, caves, or similar structures. Many NLEB hibernacula have been documented in Michigan; however, our knowledge of these overwintering areas throughout the state is likely incomplete. Suitable summer habitat for NLEB consists of a wide variety of forested habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats, such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roost trees (i.e., live trees and/or snags ≥3 inches DBH that have exfoliating bark, cracks/crevices, and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure.

Individual trees may be considered suitable habitat when they exhibit characteristics of suitable roost trees and are within 1,000 feet of other forested/wooded habitat. NLEB have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat boxes; therefore, these structures should also be considered potential summer habitat. Suitable bridges and culverts include those located below the third county tier of Michigan and within 1,000 feet of suitable forested habitat that contain suitable roosting spaces (e.g., expansion joints, cracks/crevices). Suitable culverts are at least 4 feet (1.2 meters) high and 50 feet (15 meters) long.

## II. VOLUNTARY CONSERVATION MEASURES

NLEB benefit from the promotion of mature forest habitat, particularly hardwood/mixedwood stands containing standing snags, dying trees, and waterbodies such as streams, ponds, and forested wetlands. As NLEB are known to avoid traversing large open areas outside of migration, the protection and creation of wooded corridors (such as tree lines) can be extremely beneficial in connecting fragmented patches of suitable roosting/foraging habitat. Projects that involve cutting or trimming suitable roost trees, prescribed burning, pesticide (including insecticide and rodenticide) and/or aerial/nontargeted herbicide application in or near suitable habitat, and/or removal or modification of a suitable bridge/culvert(s) are encouraged to schedule these activities when NLEB are unlikely to be present on the landscape (inactive season) and limit the clearing of contiguous[1], suitable forested habitat to 10 acres or less. In Michigan, the inactive season dates for NLEB are defined based on location and distance from known hibernacula[2] (see Table 1).

**Table 1.** Recommended dates for voluntarily[3] avoiding reasonable certainty of taking NLEB

| Proposed Activity | Location | Recommended Activity Dates | Recommended Avoidance Dates |
|---|---|---|---|
| (1) Cutting/trimming/ of potential roost trees; (2) Prescribed burning within potentially suitable habitat or if flames/smoke will reach potential habitat; and/or (3) Pesticide and/or aerial/nontargeted herbicide application | In the Upper Peninsula and within 5 miles of one or more known NLEB hibernacula | October 15 through April 14 | April 15 through October 14 |
| | In the Upper Peninsula and more than 5 miles from known NLEB hibernacula | September 1 through May 14 | May 15 through August 31 |
| | In the Lower Peninsula and within 5 miles of one or more known NLEB hibernacula | November 1 through March 31 | April 1 through October 31 |
| | In the Lower Peninsula, outside the range of Indiana bat, and more than 5 miles from known NLEB hibernacula | September 1 through April 30 | May 1 through August 31 |
| | Within the range of the Indiana bat and | October 1 through April 14 | April 15 through September 30 |

[1]Connected to other suitable forest by 1,000 feet or less
[2]Project locations can be checked for proximity to known hibernacula through the Michigan Natural Features Inventory rare species database, by using the IPaC All-Species Michigan Determination Key, or by contacting the Michigan Ecological Services Field Office.
[3]Incidental take of NLEB is not prohibited in most of the species' Michigan range per the current final 4(d) rule.

| | | | |
|---|---|---|---|
| | more than 5 miles from known NLEB hibernacula | | |
| Removal/modification of an existing bridge or culvert suitable for day-roosting NLEB[4] | October 15 through April 14 | | |

If adhering to the recommended inactive season dates is not feasible, avoiding the months of June and July (period when young bats are unable to fly) likely offers some protection for roosting NLEB that may be present. However, please note that the recently proposed change in the species' status (from threatened to endangered) may necessitate implementation of conservation measures considered voluntary under the current 4(d) rule. For example, any projects that may take or result in adverse effects to northern long-eared bat but are not prohibited under the 4(d) rule would be prohibited without a USFWS-issued permit if the proposed rule to reclassify the species as endangered is finalized.

We strongly encourage project managers, including Federal agencies and their designated representatives as well as proponents of non-Federal projects, to use the All-Species Michigan Determination Key in IPaC to evaluate potential effects of proposed activities on NLEB and other Federally listed species in Michigan. The key allows users to rely on the NLEB 4(d) rule for as long as it remains in effect, but also allows users to apply voluntary conservation measures to avoid adverse effects and/or a reasonable certainty of taking NLEB and will be updated based on changes to the species' status or other relevant ESA regulations. For more information on using IPaC and its consultation tools to conduct project reviews for NLEB and/or other listed species, please see our IPaC instructions for MI projects (PDF).

Implementing conservation measures for NLEB helps to protect other native bat species, several which are experiencing recent population declines as a result of WNS and/or other factors. As significant predators of nocturnal insects, including many crop and forest pests, bats are important to Michigan's agriculture and forests. For example, Whitaker (1995)[5] estimated that a single colony of 150 big brown bats (*Eptesicus fuscus*) would eat nearly 1.3 million pest insects each year. Boyles et al. (2011)[6] noted that the "loss of bats in North America could lead to agricultural losses estimated at more than $3.7 billion/year," and using their data for Michigan alone, we totaled the estimated value at over $500 million per year (assuming standard crop pest survival). Taking proactive steps to help protect bats may be valuable to agricultural and timber producer yields and pest management costs.

[4]Suitable culverts are at least 4 feet (1.2 meters) high and 50 feet (15 meters) long.
[5] Whitaker, J.O. 1995. Food of the Big Brown Bat *Eptesicus fuscus* from Maternity Colonies in Indiana and Illinois. American Midland Naturalist 134(2):346-360.
[6] Boyles, J.G., P.M. Cryan, G.F. McCracken, and T.H. Kunz. 2011. Economic Importance of Bats in Agriculture. Science 332:41-42.

# III. ESA GUIDANCE: PRIVATE LANDOWNERS/NON-FEDERAL PROJECTS

NLEB use a wide variety of forested habitats but are not found in all wooded areas in Michigan. The species' local distribution and abundance is influenced by both distance to hibernacula and quality of available habitat. Although it can be difficult to predict where the species may occur, once NLEB colonize a forest habitat for raising their young (pups), they will often return to the same areas annually.

As a result of this fidelity to specific locations, the Service's approach to implementation of the ESA is based in part on "known" locations where important habitat for NLEB has been documented; namely, hibernacula and maternity roost trees.

Please note that projects that require State permits or authorizations that implement Federal laws, or are supported by Federal funds (e.g., Clean Water Act, transportation projects), may have additional requirements under or similar to Section 7 of the ESA, as described in section: IV. ESA GUIDANCE: FEDERAL PROJECTS.

Additionally, please contact the Michigan Ecological Services Field Office (contact information at the end of this document) for project-specific recommendations for wind development projects. Utility-scale wind turbines may attract and cause mortality of NLEB and warrant additional considerations.

## In Michigan, what is required if there are no known NLEB hibernacula or roost trees near my project?

The Service does not require private landowners to conduct surveys for ESA-listed bats on their lands, and the current 4(d) rule does not prohibit potential take of NLEB where no hibernacula or maternity roost trees are known to occur. However, our records of these locations in Michigan are limited, and we expect NLEB roosts to be present in many locations in addition to those listed in this document (see Michigan Known Hibernacula and Roost Tree Locations for NLEB).

## NLEB 4(d) Rule Take Prohibitions

The definition of "take" pursuant to the ESA includes to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect (see 50 CFR 17.3 for details). Our implementing regulations further define the term "harm" to include any act which actually kills or injures fish or wildlife, and emphasize that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

The final 4(d) rule for the NLEB (50 CFR 17.40(o)) was published on January 14, 2016. Under the final rule, prohibitions in Michigan include:

- Actions that result in the incidental take of NLEB in known hibernacula.
- Actions that result in the incidental take of NLEB by altering a known hibernaculum's entrance or interior environment if it impairs an essential behavioral pattern, including sheltering NLEB.

- Tree-removal activities that result in the incidental take of NLEB when the activity: (1) occurs within 0.25 mile of a known hibernaculum; or (2) cuts or destroys known occupied maternity roost trees, or any other trees within a 150-foot radius of the maternity roost tree, during the pup season (June 1 through July 31).

Please note that not all tree-removal activities within the buffer of a hibernaculum or maternity roost tree will result in take. The timing and extent of tree removal may be an important consideration in those circumstances; please contact the Michigan Ecological Services Field Office to discuss your project plans in more detail. If your activity may result in incidental take that is prohibited based on the above, we will work with you to determine whether a permit pursuant to the ESA may be applicable, particularly if the activity cannot be completed by the time a final listing rule for the NLEB becomes effective (for more information on the current 4(d) rule and recent proposed rule to reclassify the NLEB as endangered, see the USFWS NLEB page).

As described in Section II, we strongly encourage project managers, including private landowners and proponents of non-Federal projects, to use the All-Species Michigan Determination Key in IPaC to evaluate potential effects of proposed activities on NLEB and other Federally listed species in Michigan. The All-Species Michigan Dkey allows users to quickly check whether their project is exempt from NLEB take prohibitions per the 4(d) rule and determine whether any conservation measures can be applied to voluntarily avoid or minimize impacts to the species, and the Key will be updated with any changes to the species' status or other relevant ESA regulations. For more information on using IPaC and its consultation tools to conduct project reviews for NLEB and/or other listed species, please see our IPaC instructions for MI projects (PDF).

## Michigan Known Hibernacula and Roost Tree Locations for NLEB

We have compiled location information for NLEB hibernacula and known roosts trees in Michigan. This information can be used to help project planners in determining the applicability of provisions of the NLEB final 4(d) rule under the ESA. Please use the tables below to see if we have information that may be applicable to your project.

If you are planning a project that may impact suitable habitat in the Michigan townships below, please contact our office with more specific information on the location of your project, and we will confirm for you whether there are any known hibernacula within ¼ mile of your project or any known roost trees within 150 feet of your project.

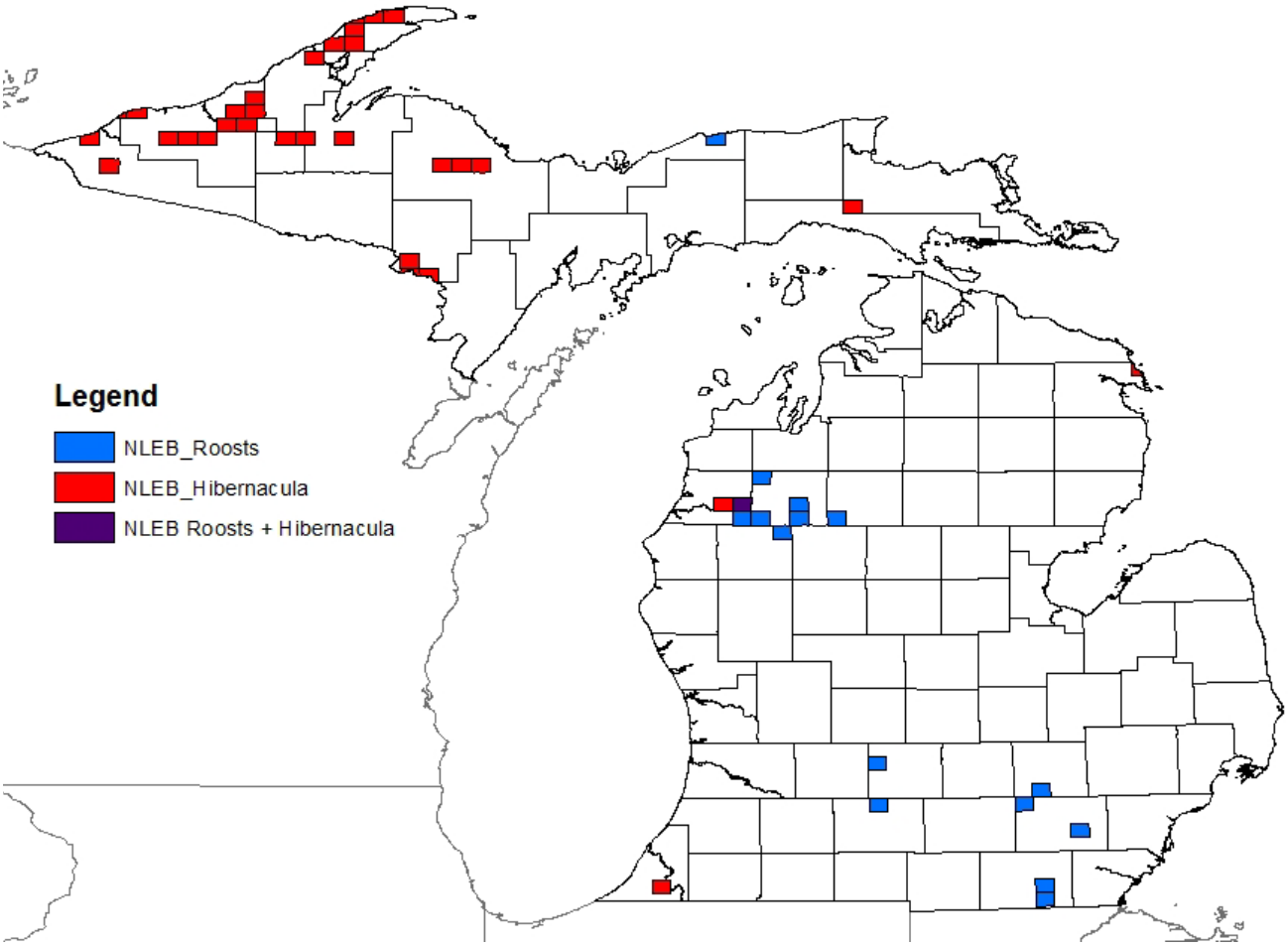
### Where are the known NLEB hibernacula in Michigan?

| Known NLEB in Michigan | | | |
|---|---|---|---|
| **County** | **Townships Containing Hibernacula and/or Buffer Areas** | **Number of Hibernacula** | **Landownership Within Buffer(s)** |
| Alpena | Alpena (T32NR9E) | 1 | Public |
| Baraga | L'Anse (T49NR33W) | 1 | Private |
| Berrien | Buchanan (T7SR18W) | 1 | Private |
| Dickinson | Breitung (T40NR30W, T39NR30W), Norway (T39NR29W) | 8 | Private (8) |
| Gogebic | Ironwood (T49NR46W); Bessemer/Wakefield (T47NR45W) | 2 | Private (1), public (1) |
| Houghton | Adams/Quincy/Franklin/Stanton (T55NR34W); Calumet (T56NR33W); Laird (T49NR35W, T49NR36W); Schoolcraft (T56NR32W) | 3 | Private (1), public (2) |
| Keweenaw | Allouez (T57NR32W, T58NR32W); Eagle Harbor/Grant (T58NR30W); Eagle Harbor/Houghton (T58NR31W) | 10 | Private (9), private + public (1) |
| Mackinac | Hendricks (T44NR7W) | 4 | Public (4) |
| Manistee | Dickson (T22NR14W, T22NR13W) | 1 | Private + public |
| Marquette | Ely (T47NR28W); Tilden (T47NR27W); Richmond (T47NR26W) | 3 | Private (3) |
| Ontonagon | Bohemia (T52NR37W); Carp Lake (T51NR44W, T51NR43W); Greenland (T51NR37W, T51NR38W, T50NR38W); Matchwood (T49NR41W, T49NR42W); Rockland (T50NR39W, T49NR40W) | 42 | Private (20), public (8), private + public (16) |

## Where are the known NLEB roost trees in Michigan?

| Known NLEB Roost Tree Locations in Michigan | | | |
|---|---|---|---|
| **County** | **Townships Containing Roosts and/or Buffer Areas** | **Number of known roosts** | **Landownership Within Buffer(s)** |
| Alger | Burt (T49NR14W) | 5 (all female) | Public (5) |
| Calhoun | Convis (T1SR6W) | 1 | Public (1) |
| Eaton | Vermontville (T3NR6W) | 1 (female) | Private (1) |
| Lake | Dover (T20NR11W) | 4 (all female) | Public (4) |
| Lenawee | Ogden (T8SR4E), Palmyra (T7SR4E) | 81 | Private (81) |
| Livingston | Putnam (T1NR4E) | 2 (1 female) | Private (1), public (1) |
| Manistee | Dickson (T22NR13W), Norman (T21NR13W) | 4 (all female) | Private (2), public (2) |
| Missaukee | Richland (T21NR8W) | 4 (all female) | Private (4) |
| Washtenaw | Lyndon (T1SR3E), Pittsfield (T3SR6E) | 3 (2 female) | Private (2), public (1) |
| Wexford | Cherry Grove (T21NR10W), Selma (T22NR10W), South Branch (T21NR12W), Wexford (T24NR12W) | 20 (16 female) | Private (17), public (3) |

## Map of Known NLEB Occurrence, Roosts, and Hibernacula in MI




***Map last updated 7/22/2016. Map will be updated as additional information becomes available.**

# IV. ESA GUIDANCE: FEDERAL PROJECTS

## Section 7 Consultation

Under the ESA, requirements for Federal projects (i.e., projects funded, authorized, permitted, or implemented by a Federal agency) are different than requirements for wholly private or otherwise non-Federal projects. The ESA mandates all Federal departments and agencies to conserve listed species and to utilize their authorities in furtherance of the purposes of the ESA. Section 7 of the ESA, called "Interagency Cooperation," is the mechanism by which Federal agencies ensure the actions they conduct, including those they fund or authorize, do not jeopardize the existence of any listed species.

Federal agencies must request a list of species and designated critical habitat that may be present in the project area from the Service via our Information for Planning and Consultation (IPaC) website. Then they must determine whether their actions may affect those species or critical habitat. If a listed species or critical habitat may be affected, consultation with the Service is required.

The Service developed IPaC to help streamline the ESA review process. IPaC can assist users through the section 7 consultation process when a Federal agency authorizes, funds, permits, or carries out an action. For further information on obtaining an official Species List through IPaC and using available assisted Determination Keys, see our IPaC instructions for Michigan projects.

Please note that Section 7 obligations or similar requirements may also apply to State permits or authorizations that implement Federal laws or projects that are supported by Federal funds (e.g., Clean Water Act, transportation projects).

For general guidance on Section 7(a)(2) obligations for Federal projects, see our Step-by-Step Instructions.

## IPaC Determination Keys

Determination Keys (Dkeys), available through the Service's Information for Planning and Consultation (IPaC) web site, are logically structured sets of questions designed to assist users in determining if a project qualifies for a pre-determined consultation outcome based on existing programmatic consultations or internal USFWS standing analyses. Qualifying projects may generate USFWS concurrence letters instantly through IPaC. Dkeys provide consistent and transparent outcomes, and significantly reduce the time to complete consultation for qualifying projects.

Two Dkeys are currently available for evaluating the effects of Federal projects on NLEB in Michigan: The All-Species Michigan Dkey, and the FHWA, FRA, FTA Programmatic Consultation Dkey for Transportation Projects. As described in Section II, we strongly encourage project managers, including Federal agencies and/or their designated non-Federal representatives, to use IPaC, and in particular the All-Species Michigan Determination Key, to evaluate potential effects of proposed activities on NLEB in Michigan. The All-Species Michigan Dkey allows users to quickly check

whether their project qualifies for NLEB Streamlined Consultation and determine whether any conservation measures can be applied to voluntarily avoid or minimize adverse effects to the species. For additional details on using Dkeys and other IPaC tools, see our IPaC instructions for MI projects.

## NLEB Streamlined Consultation (optional for Federal projects that may affect but will not involve prohibited take of NLEB while the current 4(d) rule is in effect)

Federal actions that involve incidental take not prohibited under the final 4(d) rule for the NLEB may still result in effects to individual NLEB. As discussed above, section 7 of the ESA requires consultation with the Service if a Federal agency's action may affect a listed species. This requirement does not change when a 4(d) rule is implemented. However, for the NLEB 4(d) rule, the Service has provided a framework to streamline section 7 consultations when Federal actions may affect the NLEB but will not cause prohibited take. Federal agencies have the option to rely upon the finding of the programmatic biological opinion for the final 4(d) rule to fulfill their project-specific section 7 responsibilities by using the framework for as long as the 4(d) rule remains in effect.

The NLEB Streamlined Consultation process has been incorporated into two of the three Determination Keys available for Michigan projects through IPaC. These are the All-Species Michigan DKey and the NLEB Streamlined Consultation DKey. For more information on the NLEB Streamlined Consultation process, visit the Service's species web page.

Additionally, as described in Section I, please be aware that the Service recently published a proposal to reclassify the NLEB as endangered under the Endangered Species Act and must complete a new final listing determination for the NLEB by November 2022 (Case 1:15-cv-00477, March 1, 2021). The proposed reclassification, if finalized, would remove the current 4(d) rule for the NLEB, as these rules may be applied only to threatened species.

Depending on the type of effects a project has on NLEB, the change in species status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective (anticipated to occur by December 30, 2022). This is especially important if your project may result in incidental take of NLEB after the new listing goes into effect. If your project may require re-initiation of consultation, please contact the Michigan Ecological Services Field Office for additional guidance.

Until a final listing determination for NLEB becomes effective, use of the Streamlined Consultation framework is optional. An agency may choose to follow standard section 7 procedures instead, which will not change if the species is listed as endangered.

Even when take of NLEB is not prohibited per the 4(d) rule, we encourage Federal agencies to implement voluntary conservation measures (i.e., see Section II) and avoid adverse effects to the species whenever possible, both to minimize impacts to the

species and prevent a need to reinitiate consultation if the proposed rule to reclassify the species as endangered is finalized. The All-Species Michigan Dkey and the FHWA, FRA, FTA Programmatic Consultation Dkey for Transportation Projects are both options for projects that do not wish to automatically follow Streamlined Consultation procedures. If you think it may be possible to avoid adverse effects to NLEB without relying on the 4(d) rule biological opinion, we encourage you check if your project may be able to reach a "no effect" or "not likely to adversely affect" determination using one of these Dkeys. In particular, we encourage use of the All-Species Michigan Dkey, as it will simultaneously evaluate effects to NLEB and any other listed species or habitats that may occur in or near the action area. Even if adverse effects to NLEB cannot be avoided, projects can rely on the 4(d) rule biological opinion to obtain automated concurrence through the All-Species Michigan Dkey while the 4(d) rule remains in effect.

If your project may result in prohibited take of NLEB (see "NLEB 4(d) Rule Take Prohibitions" above), standard section 7 procedures apply, and this framework cannot be used.

## Evaluating Effects to NLEB outside the Streamlined Consultation Framework

The Michigan Ecological Services Field Office has established a consistent and transparent process for evaluating potential effects of Federal actions on the NLEB, based on existing Service guidance and relevant literature, available Michigan survey data, and expert elicitation. This process is outlined below and integrated into our Michigan Threatened and Endangered Species Determination Key.

We do not expect Federal actions to rise to the level of adverse effects to NLEB when the following conditions are met[7]:

- The action area does not contain any known or potential hibernacula (including natural caves, abandoned mines, or underground quarries).
- The action will not remove/modify a human structure (barn, house, or other building) known to contain roosting NLEB.
- Tree clearing/cutting/trimming does not impact any potential roost trees[8]; OR, if suitable roost trees must be cut/trimmed, it is done so during the applicable recommended season (see Table 2 below).

[7]Projects that do not meet these conditions may still be able to avoid adverse effects to NLEB but warrant project-specific review and considerations.
[8]Suitable roost trees include live trees and/or snags ≥3 inches dbh that have exfoliating bark, cracks/crevices, and/or cavities.

- Tree clearing does not exceed 10 acres of contiguous[9], forested habitat and does not fragment a connective corridor between two or more forest patches of at least 5 acres.

- Prescribed burning does not clear >10 acres of contiguous[8], forest and is conducted during the recommended applicable season (see Table 2).

- If burning in non-suitable habitat adjacent to suitable forest when NLEB may be present (e.g., grassland or scrub/shrublands near mature forest), flame height and smoke are kept to a minimum.

- Application of pesticides (including insecticides and rodenticides) and/or aerial/nontargeted herbicide application is restricted to the applicable recommended season (see Table 2).

- Application of herbicides follows the label and is limited to targeted methods like spot-spraying, hack-and-squirt, basal bark, injections, cut-stump, or foliar spraying on individual plants or conducted during the applicable recommended season (see Table 2).

- Removal/modification of an existing bridge or culvert suitable for day-roosting NLEB[10] does not result in the permanent loss of known or potential roosting spaces and is conducted during the recommended applicable season (see Table 2).

- Projects that include temporary or permanent lighting of roadway(s), facility(ies), and/or parking lot(s) apply the following conservation measures:

    - When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, the goal is to be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable.

    - Direct temporary lighting away from suitable habitat when bats may be present.

[9]Connected to other suitable forest by 1,000 feet or less
[10]Suitable bridges and culverts include those located below the third county tier of Michigan and within 1,000 feet of suitable forested habitat that contain suitable roosting spaces (e.g., expansion joints, cracks/crevices). Suitable culverts are at least 4 feet (1.2 meters) high and 50 feet (15 meters) long.

**Table 2.** Recommended dates for avoiding adverse effects to NLEB

| Proposed Activity | Location | Recommended Activity Dates | Recommended Avoidance Dates |
|---|---|---|---|
| (1) Cutting/trimming/ of potential roost trees[11]; (2) Prescribed burning and or near potentially suitable habitat; and/or (3) Pesticide and/or aerial/nontargeted herbicide application | In the Upper Peninsula and within 5 miles of one or more known NLEB hibernacula[12] | October 15 through April 14 | April 15 through October 14 |
| | In the Upper Peninsula and more than 5 miles from known NLEB hibernacula | September 1 through May 14 | May 15 through August 31 |
| | In the Lower Peninsula and within 5 miles of one or more known NLEB hibernacula | November 1 through March 31 | April 1 through October 31 |
| | In the Lower Peninsula, outside the range of Indiana bat, and more than 5 miles from known NLEB hibernacula | September 1 through April 30 | May 1 through August 31 |
| | Within the range of the Indiana bat and more than 5 miles from known NLEB hibernacula | October 1 through April 14 | April 15 through September 30 |
| Removal/modification of an existing bridge or culvert suitable for day-roosting NLEB[13] | October 15 through April 14 | | |

[11]Suitable roost trees include live trees and/or snags ≥3 inches dbh that have exfoliating bark, cracks/crevices, and/or cavities.
[12]Project locations can be checked for proximity to known hibernacula through the Michigan Natural Features Inventory rare species database, by using the IPaC All-Species Michigan Determination Key, or by contacting the Michigan Ecological Services Field Office.
[13]Suitable culverts are at least 4 feet (1.2 meters) high and 50 feet (15 meters) long.

If the above conditions are met, projects should be able to reach a "may affect, not likely to adversely affect" determination for NLEB through our IPaC All-Species Michigan Determination Key and/or through informal consultation with the Service outside the Dkey. If these conditions cannot be met and the Federal action agency does not want to rely on programmatic biological opinion for the final 4(d) rule, please contact our office for additional site-specific review regarding your project.

Note that these conditions are only necessary if NLEB are present. Prior to conducting activities that may impact NLEB, surveys can be done to determine if NLEB are present or likely absent from the action area. See our Range-wide Survey Guidelines for more information. In the absence of site-specific survey data, adherence to the above conditions should appreciably reduce the potential for adverse effects to NLEB.

In addition to habitat assessments and presence/probable absence surveys, bridge/culvert assessment can be conducted to determine whether a suitable bridge or culvert is occupied by bats. See these Guidelines for more information. If a bridge/culvert has been inspected for signs of roosting bats (guano, urine staining, bat vocalizations, and/or bats) during the summer roosting season (May 15 through August 15), and no bats or signs of bats were observed, work on the bridge/structure can proceed at any time of year.

## V. MICHIGAN ECOLOGICAL SERVICES FIELD OFFICE CONTACT INFORMATION

Please contact the Michigan Ecological Services Field Office for more information on any projects occurring in Michigan.

U.S. Fish and Wildlife Service
Michigan Ecological Services Field Office
2651 Coolidge Road, Suite 101
East Lansing, MI 48823
Phone: 517-351-2555
Fax: 517-351-1443
TTY: 1-800-877-8339 (Federal Relay)
e-mail: EastLansing@fws.gov